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## NOVEMBER 4.

MR. CHARLES MORRIS in the Chair.

Nine persons present.

The presentation of a paper entitled "Contribution to the Anatomy of the Ilysiidæ," by Joseph C. Thompson, Surgeon U. S. N., was reported.

The death of Philip R. Uhler, a member, October 21, was announced.

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NOVEMBER 18.

The President, SAMUEL G. DIXON, M.D., LL.D., in the Chair.

The Publication Committee reported the reception of papers under the following titles:—

"On the Orthoptera found on the Florida Keys and in extreme Southern Florida. II." By James A. G. Rehn and Morgan Hebard (November 7).

"Notes on some Costa Rica Arachnida." By Nathan Banks (November 14).

The Chair announced the death of Prof. Arnim Balzer, a correspondent, November 4, 1913.

The following were elected members:

Harvey Stamp, M.D.

Herbert H. Cushing, M.D.

J. Ewing Mears, M.D.

The meeting was held in association with the Biological and Microscopical Section.

*The Collecting and Preparation of Diatoms.*—MR. T. CHALKLEY PALMER, prefacing his remarks on collection and preparation of diatoms, deplored the threatened extinction of the amateur, especially in branches of science involving the use of the microscope. He men-

tioned illustrious amateurs, both living and dead, whose work has added greatly to our knowledge of nature.

The abundance of diatoms in clear waters was indicated, and apparatus useful in making collections were exhibited and described. Methods of separating diatoms into pure condition were explained in outline, and those depending on motile activity were emphasized as preferable in many cases to chemical treatments and laborious decantations. Sedentary forms, such as *Synedra*, growing on algæ, etc., may often be separated by exposing the gathering to sunlight, when the diatoms fall off the buoyant mass and deposit as a perfectly clean layer on the bottom of the bottle. Filamentous forms may usually be cleaned by gentle agitation in distilled water, exposure to sunlight causing flotation, and by other similar means. Motile forms, if in gelatinous aggregates, as *Cymbella*, *Gomphonema*, are put into a Petri dish with distilled water and permitted to wander out of the unpromising aggregate into thin films or pure groupings on the bottom of the vessel. Unequal lighting of the dish will generally cause preponderant groupings toward the light. The clean frustules are transferred to watch-glasses of distilled water, working with a capillary pipette and low-power binocular microscope. Tenacious or leathery layers of *Nitzschia*, on stones in rapid waters, are cut off with a knife, and after freeing from detachable mud are left in a small flat bottle of distilled water for 24 hours. The diatoms expand on the upright glass walls, especially upon the lighted side, into thin, coherent films of great purity, detachable with a sharp needle or similar instrument. Larger *Naviculæ* not coherent, but aggregated in patches on the bottom of a spring, are lifted with as little mud as possible, and separated from organic and inorganic flocculence in the same bottle; and a separation in course of *Pinnularia*, was exhibited, in which the large frustules could be seen, with the aid of a pocket lens, expanding on the glass.

Distilled water, if well aerated and uncontaminated with metals, especially copper, seems to stimulate the desired activities. The diatoms having been segregated by such means, they are transferred with a capillary pipette to a clean cover-glass, dried and burned to whiteness. The glass is supported on a thin piece of platinum, which in turn rests on a piece of fireclay ground flat. The fireclay is heated to bright redness with a gas burner, the platinum showing only a faint glow. In about fifteen minutes the frustules are free from organic matter, and the mount may be made in the usual way with Canada balsam or styrax.

The biological method of cleaning, apart from its facility in handling sparse or unpromising material, gives opportunity for interesting observations on the living diatoms.

*On Diatoms of Philadelphia.*—MR. CHARLES S. BOYER described the diatomaceous flora of Philadelphia, stating that he was able to add seventy-one names to the catalogue of species heretofore re-